I claim:

1. Contrast media for ultrasound image-enhancement comprising microbubbles of a biocompatible gas having a Q coefficient greater than 5 where

$$Q = 4.0 \times 10^{-7} \times \rho / C_s D$$

and ρ is the density of the gas (Kgm^{-3}), C_s is the water solubility of the gas (M) and D is the diffusivity of the gas in solution ($cm^3 sec^{-1}$).

2. Contrast media of claim 1 comprising a suspension of gas bubbles smaller than 8 microns in a biocompatible aqueous liquid vehicle.

3. Contrast media of claim 1 wherein the gas is sulfur hexafluoride.

4. Contrast media of claim 1 wherein the gas is hexafluoropropylene.

5. Contrast media of claim 1 wherein the gas is octafluoropropane.

6. Contrast media of claim 1 wherein the gas is hexafluoroethane.

7. Contrast media of claim 1 wherein the gas is octafluoro-2-butene.

8. Contrast media of claim 1 wherein the gas is hexafluoro-2-butyne.

9. Contrast media of claim 1 wherein the gas is hexafluorobuta-1,3-diene.

10. Contrast media of claim 1 wherein the gas is octafluorocyclobutane.

11. Contrast media of claim 1 wherein the gas is decafluorobutane.

12. Contrast media of claim 1 where the gas is dodecafluoropentane.

13. A method for selecting a gas for use as an ultrasound image-enhancement agent comprising the steps of

determining the solubility, C_s, of the gas in a solution;

determining the density, ρ, of the gas;

determining the diffusivity, D, of the gas in the solution;

calculating a Q coefficient where

$$Q = 4.0 \times 10^{-7} \times \rho / C_s D$$

and selecting a gas having a Q coefficient of greater than 5.

14. The method of claim 1 wherein the diffusivity, D, is determined from the molar volume, Vm, of a gas by the formula

$$D = 13.26 \times 10^{-5} \cdot \eta^{-1.14} \cdot V_m^{-.589}$$

where η is the solution viscosity (cP).